OBJECTIVES: Severe asthma is a major cause of morbidity and mortality around the world, associated with a heavy societal burden. The aim of this study was to evaluate the economic value of omalizumab in the treatment of adult patients with severe allergic asthma in Greece, from a societal perspective, based on data collected from a clinical trial (INNOVATE) and real-world evidence (RWE) from a prospective observational study conducted in Greece. **METHODS:** A Markov cohort model was developed in Microsoft Excel to compare the costs and outcomes of omalizumab plus standard therapy (ST, primarily comprised ICS, LABA and SABA) versus ST alone. The time horizon was that of a lifetime. Both direct and indirect costs were incorporated. Health outcomes considered were Quality Adjusted Life Years (QALYs). Costs and QALYs were discounted annually at 3.5%. Unit costs were taken from publically available sources. Productivity losses were calculated based on published data, while utility values were taken from the INNOVATE study. Deterministic and probabilistic sensitivity analyses were undertaken to test the robustness of the model results. **RESULTS:** The addition of omalizumab to ST led to an incremental cost per QALY gained of €27,888 based on INNOVATE trial and €27,255 based on the RWE. The model appeared to be most sensitive to changes in the time horizon and the age of retirement. Results of the probabilistic sensitivity analysis showed that the probability of omalizumab being cost effective was 58% and 84%, at a willingness to pay threshold of €30,000 and €40,000, respectively. **CONCLUSIONS:** Omalizumab appears to be a cost-effective treatment option for adult patients with severe allergic asthma compared with ST in Greece, confirmed by both trial and real-world data.

PRS58

COST-EFFECTIVENESS ANALYSIS OF INDACATEROL/GLYCOPIRRONIUM (QVA149) AS A MAINTENANCE BRONCHODILATOR TREATMENT IN ADULT PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE IN SPAIN

Granell M[1], Giovanna M[2], Paz S[3], Betoret I[1]

[1]*Novartis Farmaceutica, Barcelona, Spain,* [2]*Outcomes 10, Castellon, Spain,* [3]*Outcomes'10, Castellon, Spain*

OBJECTIVES: To assess the cost-effectiveness (CE) of indacaterol/glycopyrronium (QVA149; 85µg/43µg) as a maintenance bronchodilator treatment of adult patients with Chronic Obstructive Pulmonary Disease (COPD) versus salmeterol/fluticasone (SFC; 50µg/500µg). **METHODS:** A CE model of micro-simulation over a 3-, 5-, 10-year and lifetime horizon was developed from the perspective of the Spanish National Healthcare System. Patients progress through subsequent COPD stages based on their baseline characteristics and considering the natural decline of Forced Expiratory Volume in 1 second (FEV1) and exacerbation rate. In the model this is counteracted by treatment-associated FEV1 improvement from baseline and exacerbation rate reduction associated to each treatment vs. placebo, which were obtained by direct and indirect comparison of primary data from TORCH (SFC vs. placebo), SHINE (QVA149 vs. placebo) and ILLUMINATE (QVA149 vs SFC) clinical trials. The considered outcomes were life years (LY) gained and quality-adjusted life years (QALYs). Cost estimates (Euros 2014) include drugs, disease management and mild/severe exacerbation expenditures from Spanish health care cost databases and publications with a discount rate of 3% for costs and effects. **RESULTS:** QVA149 has shown to be less costly and more effective than the fixed combination of SFC with respect to both LY and QALYs gained. The cost per patient treated with QVA149 over a 3-, 5-, 10-year and lifetime period was estimated to be €108, €182, €305, and €467 lower than with SFC, which resulted from avoiding exacerbation costs and decreasing maintenance cost in relation to slowing COPD progression. Therefore, QVA149 was estimated to be dominant over SFC with respect to both cost-effectiveness and cost-utility. **CONCLUSIONS:** Due to its higher effectiveness in improving FEV1 and reducing COPD exacerbations, QVA149 has shown to be more cost-effective than SFC.

PRS59

COST-EFFECTIVENESS ANALYSIS OF ALLERGEN IMMUNOTHERAPY IN PATIENTS WITH GRASS POLLEN-INDUCED ALLERGIC RHINITIS IN SPAIN

Valero A[1], Westerhout KY[2], van de Wetering G[2], Pérez-Alcántara F[3], Azpeitia A[4], Najib M[5]

[1]*Hospital Clinic Universitari de Barcelona, Barcelona, Spain,* [2]*Pharmerit International, Rotterdam, The Netherlands,* [3]*Oblikue Consulting, Barcelona, Spain,* [4]*Stallergenes Ibérica S.A, Barcelona, Spain,* [5]*Stallergenes, Antony, France*

OBJECTIVES: To determine the relative impact of treatment with Oralair®, Grazax®, Pangramin®, Pollinex Quattro®, and symptomatic drug treatment (SDT) on clinical effects and health care costs in patients with grass pollen-induced allergic rhinitis (AR) in Spain. **METHODS:** The effects of three years of drug treatment on quality-adjusted life years (QALYs) and costs were assessed using a Markov model with a nine-year time horizon. Symptom score data were extracted, and the relative efficacy on QALYs was assessed through a network meta-analysis (i. e. indirect comparison) of 3-year, placebo-controlled, clinical trial data. Patient symptom scores were translated into the impact on quality of life by means of published sources. Costs associated with drug treatment and other health care resources were calculated. The incremental costs and QALYs gained were generated accordingly. The uncertainty around the model outcomes was determined by means of sensitivity analyses. **RESULTS:** The base case analysis over 9 years estimated incremental QALYs of 0.005 (95%CI: -0.024; 0.038), 0.016 (95%CI: -0.034; 0.063), 0.059 (95%CI: 0.024; 0.107), and 0.143 (95%CI: 0.102; 0.195) when Oralair® was compared to Grazax®, Pangramin®, Pollinex Quattro® and SDT, respectively. Corresponding incremental costs were -€1,063 (95%CI: -€1,306; -€779), €109 (95%CI: €206; €428), €572 (95%CI: €321; €864), and €1,360 (95%CI: €1,110; €1,649). Hence, Oralair® was predicted as dominant relative to Grazax®, while ICERs of €6,931/QALY, €9,703/QALY, and €9,517/QALY were estimated relative to Pangramin®, Pollinex Quattro®, and SDT, respectively. Apart from drug costs, the sensitivity analyses suggest that results were mostly driven by drug-specific symptom score values, duration of the pollen season, and inputs for immunotherapy discontinuation. At a willingness-to-pay threshold of €20,000, the probability of Oralair® being the most cost-effective treatment option is 65%. **CONCLUSIONS:** Oralair® is cost-effective relative to Grazax®, Pangramin®, Pollinex Quattro® and SDT in grass pollen-induced AR in Spain. Findings are confirmed by extensive sensitivity analyses.

PRS60

COST-EFFECTIVENESS OF ENDOBRONCHIAL VALVE THERAPY FOR SEVERE EMPHYSEMA: A MODEL-BASED PROJECTION BASED ON THE VENT STUDY

Pietzsch JB[1], Garner AM[1], Herth FJ[2]

[1]*Wing Tech Inc., Menlo Park, CA, USA,* [2]*University of Heidelberg, Heidelberg, Germany*

OBJECTIVES: Endobronchial valve therapy (EBV) is an innovative treatment that has been shown to be safe and effective in selected subgroups of patients with severe emphysema. The objective of our study was to assess the cost-effectiveness of valve treatment in the German health care system when compared to medical management. **METHODS:** Clinical data from a subset of the Endobronchial Valve for Emphysema Palliation Trial (VENT) provided information about clinical events, health-related quality of life, and disease staging through 12 months. This information was subsequently used as input to a previously published Markov model to project longer-term disease progression, mortality, and health resource utilization. From this combined analysis, we computed the 5-year and 10-year incremental cost-effectiveness ratio (ICER) in euros per quality-adjusted life year (QALY). Costs and effects were discounted at 3% per year. **RESULTS:** EBV therapy led to clinically meaningful disease restaging at 12 months (37.8% of cohort improved staging, compared to 0% in control). Over 5 years, EBV was projected to increase survival from 66.4% to 70.7%, and to add 0.22 QALYs. Costs were estimated to increase by € 10,299, resulting in an ICER of €46,322/QALY. Over 10 years, 0.41 QALYs were gained at additional cost of €10,425, yielding an ICER of €25,142/QALY. **CONCLUSIONS:** Our model-based analysis suggests that EBV leads to clinically meaningful changes in disease staging and progression when compared to medical management, with resulting gains in unadjusted and quality-adjusted life expectancy. Relative to the acknowledged willingness-to-pay threshold of € 50,000/QALY, our results indicate EBV is a cost-effective therapy in the German health care system.

PRS61

CAN IMPROVED TREATMENT OF ALLERGIC RHINITIS IMPROVE WORKPLACE PRODUCTIVITY? THE ROLE OF INTRANASAL FORMULATION OF AZELASTINE HYDROCHLORIDE AND FLUTICASONE PROPIONATE (DYMISTA)

Harrow B[1], Hofmeister J[1], Gever LN[1], Karafilidis J[1], Lacey MJ[2], Scheibling CM[2], Schneider JE[2]

[1]*Meda Pharmaceuticals, Inc., Somerset, NJ, USA,* [2]*Avalon Health Economics, Morristown, NJ, USA*

OBJECTIVES: Allergic rhinitis (AR) affects 10-20% of the US population, with treatment costs exceeding $6 billion annually and has been shown to have a substantial impact on productivity. In the U. S. AR is estimated to result in 3.5 million lost work days and 2 million lost school days annually. AZ/FP is an intranasal formulation of azelastine hydrochloride and fluticasone propionate in an advanced delivery system indicated for the relief of symptoms of seasonal AR (SAR). Patients treated with AZ/FP experience significantly greater and faster symptom relief in comparison to first-line therapy in trials, and thus have the potential to positively impact workplace productivity. We use an economic model to calculate the economic effects on workplace productivity associated with moving AZ/FP from third-tier to second-tier pricing and reimbursement. **METHODS:** Population is SAR sufferers seeking treatment. AZ/FP is assumed to gain market share annually with second-tier pricing. Time horizon is one year and five years. Four step approach: (1) estimate total number of AR-related symptomatic days; (2) calculate total number of AR-related episodes per year multiplied by number of days per episode; (3) estimate number of these days that occur during a standard 5-day work week; & (4) Estimate proportion of AR symptomatic days resulting in absenteeism or presenteeism. **RESULTS:** For a typical health plan, the estimate of expected number of absenteeism and presenteeism days per AZ/FP patient associated with moving AZ/FP from Tier 3 to Tier 2 resulted in a reduction of 4,729 AR-symptomatic days annually. Total workplace cost savings ranged from $168,838 (Year 1) to $190,937 (Year 5), with the proportional effects on absenteeism and presenteeism being roughly equal. **CONCLUSIONS:** AZ/FP offers an appropriate means of adhering to AR practice guidelines and improving outcomes. This workplace productivity model shows that the added benefits to employers could be substantial.

PRS62

THE POTENTIAL SOCIETAL COST BENEFITS OF IMPROVED INHALATION TECHNIQUE WITH DUORESP® SPIROMAX® (BUDESONIDE + FORMOTEROL FUMARATE DIHYDRATE) COMPARED WITH SYMBICORT® TURBUHALER® FOR THE MANAGEMENT OF ASTHMA AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE IN SWEDEN

Lewis A[1], Blackney M[1], Torvinen S[2], Lindqvist F[3], Safioti G[3], Grundström J[4], Polyzoi M[4], Plich A[2]

[1]*Covance Inc., London, UK,* [2]*Teva Pharmaceuticals Europe B.V, Amsterdam, The Netherlands,* [3]*Teva Pharmaceuticals AB, Helsingborg, Sweden,* [4]*Parexel International, Stockholm, Sweden*

OBJECTIVES: DuoResp® Spiromax® (budesonide + formoterol fumarate dihydrate) is a fixed-dose combination (FDC) of inhaled corticosteroid (ICS) + long-acting beta agonist (LABA) in a novel dry powder inhaler (DPI). An economic model was developed to assess the potential societal cost benefits of improved inhalation technique with DuoResp® Spiromax® compared with Symbicort® Turbuhaler®– a DPI delivering the same FDC – in the management of adult patients with persistent asthma and chronic obstructive pulmonary disease (COPD) in Sweden. **METHODS:** The eligible adult patient population was based on statistics from the National Board of Health and Welfare in Sweden. Societal costs (lost productivity) were based on the annual number of work-days lost for asthma and COPD patients in Sweden and the United Kingdom (UK), respectively, and the average daily cost of sick leave in Sweden. Frequency of poor inhalation technique with Symbicort® Turbuhaler® and the subsequent increased risk of unscheduled health care events were taken from a large (n=1,664) cross-sectional, Italian observational study. The estimated reduction in the proportion of patients with poor inhalation technique with DuoResp® Spiromax®